

Remarks

This amendment responds to the official action mailed October 26, 2007 and is filed concurrently with a Request for Continued Examination.

Applicant has removed from claims 1 and 12 the language to which the examiner objected as alleged new matter. Applicant maintains the position that the invention as originally disclosed has various display modes, and when a selection criterion is met, such as a color gamut error at a particular pixel, the apparatus as disclosed and claimed is configured to switch from a current display mode into a new display mode, such as a mode that is useful to deal with that occurrence. The claims have been amended to more particularly recite the distinctions of the invention over the prior art. Support for the changes made in claims 1 and 12 is noted below. Claim 2 has been canceled and the dependency of claim 3 shifted accordingly.

The invention concerns an apparatus used in analyzing a video signal, namely a succession of frames and fields. The apparatus is configured to produce a display of information for analyzing the video signal. There are alternative modes of display, and the apparatus can be set to shift from one mode to another when a predetermined criterion is met in the active video signal. Assuming that the default display mode is a view of the video program content, in the case of a color gamut error (which is an example provided throughout the disclosure), the inventive display switches from the current display mode to another display mode in response to the video input signal, for example to a mode that focuses on the aspect of the video signal color content. A controller and video processor reformat the display, for example to zoom the display of the area of the pixel(s) containing an error, to display a related plot (e.g., color information on a vectorscope plot or luminance on a time plot), to present tabular data relating to the error (such as digital YCbCr levels), or to display a subset of these options.

The apparatus responds to changes in the character of the video data (successive frames and fields of a video picture) by changing the present display mode of the apparatus to another one of the display modes. The application to video (rather

than still images) is recited in the claims. The particular modes of the display are expressly defined in the claims.

The foregoing aspects of the invention are supported by an enabling disclosure. These aspects are particularly and distinctly claimed using language from the specification as filed. The invention claimed as a whole is not disclosed in the prior art of record. A person of ordinary skill would have no reasonable expectation that a successful result could be obtained by attempting to employ the aspects that might be collected from the various references of record, even if hindsight or chance might bring such aspects under consideration. There is no basis to assert that the invention claimed as a whole would have been obvious.

In the official action, Krishnamurthy (US 5,469,188) is considered automatically to select among changeable selections of a formatted display when predetermined criteria are met. However the changes that occur in Krishnamurthy concern the data values that appear in fixed windows when the user changes the selection of a pixel, the Krishnamurthy changes are not changes in the formatting of modes of display. The Krishnamurthy display is not switched to a different mode as a mode is disclosed and as the modes are expressly defined in claim 1. According to Krishnamurthy, if the user by manual operation of a switch input selects a next or previous pixel error to display, the data applicable to the new pixel appears, but the display mode does not change.

Applicant's claim 1 recites and defines what is meant with respect to different display modes, among which the display is changed. In the different modes, the display can present:

- a full representation of the video picture contained in the video input signal, selectively presented so as to occupy at least a portion of a display area of the formatted display;
- a zoom image including an area of particular scrutiny in said video picture, selectively presented so as to occupy at least a portion of the display area of the formatted display;
- a report of video data characteristics of at least one point within said area of particular scrutiny; and/or,
- a subset of said full representation, said zoom image and said report.

There is no teaching in Krishnamurthy of changeable display modes as said display modes are defined in claim 1. Changing the pixel of interest, displaying different numerical data values in static fields and/or operating an alarm as cited in Krishnamurthy, do not involve a change of display mode, either to or between any of the modes stated in claim 1. Krishnamurthy has a static display mode and operates on static single frames, substantially completely under user control. Changing data values in a static display does not meet the invention claimed.

In the comments in the official action, the examiner doubts that applicant's original disclosure supports automatically changing display modes, citing passages in the disclosure that say that the user makes selections. However these cited passages provide that the user can preset which of the alternative selection modes will be assumed in the displayed output when the display mode is changed by operation of the controller, due to a change in the character of the ongoing video signal. The change of mode occurs automatically, in response to the input signal meeting a data value criteria selected by user input. Accordingly, the specification mentions:

... certain automatic and certain user selection modes, including the selection of particular outputs to be presented at a given time. (page, 5, para. [0017]).

... optional selections can be shown individually or in groups of two or more, mapped to all or to a discrete part of the display area by operation of the video processor and controller. (page 7, para. [0022]).

... The controller is operable to control a nature of the information displayed ... including selectively to display information regarding the video input signal in alternative ways ... (page 10, para. [0035]).

... the video processor is operable responsive to the control input to define a selection criteria and automatically to select from the input video signal at least one area of particular scrutiny based upon data in the video signal meeting said selection criteria. The video processor simultaneously presents the input video signal on part of the area of the display device, a zoom image of an area of particular scrutiny at and around the selected area on a first supplemental display area 32, and a detailed analysis of the offending pixels ... (page 21, para [0073]).

[Underlining emphasis supplied.]

The foregoing passages demonstrate that the official action is in error to assert that the specification discloses only manual user selections of display modes. The specification supports user selections to set up the criteria, and to define which mode will be used in response to the signal meeting a given criteria, but the controller and the video processor can switch between these modes without user intervention when the criteria arise.

In the "response to arguments" section of the official action, it is stated that the language of applicant's claim 1 is not commensurate with applicant's arguments, in particular pointing to "reformatting the display to a different changeable" as not recited in the rejected claims. Claim 1 as amended clearly recites the changing of modes by the controller, and states what the modes are. There is no such disclosure in the prior art and no basis of record to conclude that the invention claimed as a whole would have been obvious.

The Krishnamurthy reference does not meet or suggest the invention claimed as a whole, and could not be routinely combined with the other prior art of record, with any expectation of success, to meet the invention in combination. Much of the official action is devoted to explaining that Krishnamurthy discloses routine aspects of a display, which applicant does not dispute. Thus the examiner states that Krishnamurthy has video data for a frame buffer, and that video data contains frames and fields of a video picture. However, the critical aspects needed to reach the invention from Krishnamurthy and the other prior art references are missing. Krishnamurthy may deal with video data and video data may have frames and fields, but Krishnamurthy deals with the video data one image at a time in static form. Therefore, one cannot conclude that Krishnamurthy teaches or remotely suggest the idea of changing modes of display when the character of a video signal of successive frames and fields meets a preset criteria and an associated controller changes the current display mode as a result of that.

The examiner further points out that Krishnamurthy has a computer system, a display window in and display panel with video information displayed including aspects

of pixels. These routine aspects of a display are not in dispute. Regarding claim 1, the examiner agrees in the official action that Krishnamurthy does not disclose that a video processor should produce a formatted display of selectable data images in a changeable selection. The Lau reference (US 5,469,188) is cited for having subordinate windows that can be opened, closed and moved. Lau's selection is simply the manual manipulation of windows by a user. There is no disclosure or suggestion of changing among modes as specifically recited in applicant's claim 1. There is no basis to conclude that a combination of Krishnamurthy would provide a different mode as claimed. Furthermore, Lau also operates on one image at a time. The combination of Krishnamurthy and Lau does not meet the claimed invention.

In the official action it is suggested that Krishnamurthy discloses focusing on an area of scrutiny by operation of the "next" and "previous" buttons by which the user cause the tabular display to read out the data of a next or previous pixel. Even given that Krishnamurthy enables the user to select next and previous pixels meeting a color gamut criterion, there is no basis to conclude from Krishnamurthy alone, or in combination with Lau, that when a video signal meets a criteria, the display mode could or should be changed from one mode to another among the modes recited in applicant's claim 1. Applicant requests reconsideration and allowance of claim 1 and the claims depending from claim 1.

In further comments, the official action points out that the prior art discloses resizing of windows by manual user input, keyboards and mouse inputs in Lau, to be added to Krishnamurthy. Even assuming that these aspects of Lau are selected and added to those of Krishnamurthy, and even assuming that the incentive to do so is provided by improving the convenience of input and output, the prior art does not meet the invention claimed as a whole.

Regarding claims 2-6, new rejections have been made using a combination of Krishnamurthy and Lau plus Kidder (US 2004/0031030). Kidder is cited for a FCAPS button that is enlarged upon occurrence of an error. It is dubious to conclude that changing the appearance of a button on a display is a change of mode. Assuming that

Kidder's emphasizing of a button in an alarm mode is deemed to resemble a change of mode, the invention still is not met. Kidder does not teach or suggest, by an alteration in the appearance of a button, the possibility of zooming to an area of scrutiny in a video signal, which is the language in applicant's claim. Likewise, neither Lau nor Krishnamurthy is switched by a controller to a zoomed area of scrutiny for showing a portion of the video picture. At best, the references in combination might only encompass static elements of a single alterable frame. None of the references, nor their combination, reasonably meets the subject matter of claim 1 as a whole.

Regarding claims 13 and 14, Krishnamurthy and Lau are cited as above. McVeigh (US 2002/0141615) is cited for tracking a color through a series of frames of data. McCalla (US 2004/0031061) is cited for lapsing into a default process in the absence of user input for a predetermined time. It is asserted in the official action that these four references would be routinely combined to reach the claimed invention if one would change Krishnamurthy and Lau from static frame editors into video processors, to operate McVeigh on video instead of the frames in the series as mentioned, and to revert to a default processor in the absence of user input as in McCalla.

Reconsideration is requested. There is no basis of record to support the possibility of reconstituting frame based static editors and analyzers as video processors that change modes on the fly in response to a change in the character of the passing video signal, such as the occurrence of a gamut error. The references do not suggest the possibility of doing so. An attempt to revise a static frame editor to operate on video would make it impossible for the operator to carry on frame editing functions. A selection criterion applied to active video would be expected to remain true for less time than an editor operating on the frame could react. There is no basis to find in McVeigh's facility for tracking colors or McCalla's time-out function any reason to suspect that the usefulness of these aspects as seen in McVeigh and/or McCalla would predictably meet with success if one attempted to import those aspects into Krishnamurthy or Lau. There is no reasonable basis to conclude that the invention claimed as a whole would have been obvious.

Applicant has eliminated issues of new matter and has amended the claims to better distinguish the invention from the prior art. Entry of the amendment is requested. Applicant's arguments are commensurate with the claims. The new prior art references cited for certain aspects do not provide any reason to believe that the person of ordinary skill could reach the basic aspects by which the claimed invention distinguishes from Krishnamurthy and Lau. There is no basis by which the person of ordinary skill could have predicted an advantageous outcome from selectively extracting limited aspects of these diverse references, even assuming that the aspects can be seen to have been useful in the environments where they were found.

The differences between the invention and the prior art are such that the subject matter now claimed as a whole is not shown to have been known or obvious. Reconsideration and allowance of the claims are requested.

Respectfully submitted,

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/Stephan Gribok/

Stephan P. Gribok, Reg. No. 29,643
Duane Morris LLP
30 South 17th Street
Philadelphia, PA 19103-4196
tel. 215-979-1283
fax. 215-979-1020
SPGRIBOK@DUANEMORRIS.COM

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